

**Rio Mesa Solar Electric Generating Facility (RMSEGF)
(11-AFC-4)**

Applicant's Specific Comments on the Preliminary Staff Assessment

HAZARDOUS MATERIALS

SPECIFIC COMMENTS

1. **Page 4.4-5, first bullet:** Please revise the text as follows:

Step 1: Staff reviewed the chemicals and amounts proposed for on-site use, as listed in Tables 5.5-2, 5.5-3, and 5.5-4 and 5.5-5 of the Application for Certification (AFC) (BS 2011a) and Tables 5.5-1 and 5.5-2 of Applicant's Environmental Enhancement Proposal (BS 2012), and determined the need and appropriateness of their use.

2. **Page 4.4-8, First Full Paragraph:** Please revise the description of the natural gas facilities as follows:

Natural gas will be delivered to the project by installing ~~a one or more~~ taps and meter station(s) on the existing ~~TCGT~~ North Baja Pipeline (NBPL), a subsidiary of TransCanada, which runs along the east side of the project. From the tap, natural gas will go through a master metering station where the total flow of natural gas will be measured. This metering station will require a minimum area of approximately 150 feet by 150 feet. Tap and metering station(s) will be permitted, built, owned and operated by ~~TCGT~~NBPL ~~or its subsidiary~~. Custody transfer of the natural gas will be downstream from the master metering station(s). Natural gas will be delivered to each plant through an underground, high pressure gas lateral pipe that will run along project roads. Each plant will have its own meter to measure the amount of natural gas delivered to the power block (BS 2011a, Sect 4.3.1). The ~~tap and~~ meter station will be installed ~~adjacent~~ approximately 250' west of the tap point on the NBPL~~TCGT~~ pipeline. This will be the "master" meter and will measure and record gas volumes delivered to the entire project for custody transfer. Construction activities related to the metering station will include grading a pad and installing above- and below-ground gas piping, metering equipment, and possible pigging facilities. (BS 2011a, Sect 4.3.2).

3. **Page 4.4-10, First Paragraph, First and Second Sentences:** Please revise the text as follows:

Staff proposes Condition of Certification **HAZ-1** to ensure that no hazardous material would be used at the facility except as listed in the AFC ~~and as revised subsequently by the Applicant~~ and reviewed for appropriateness, unless there is prior approval by the Energy Commission compliance project manager (CPM). Staff reviewed the chemicals and amounts proposed for on-site use, as listed in Tables 5.5-1, 5.5-2, 5.5-3 and 5.5-4 of the amended AFC (BS 2012v) and determined the need and appropriateness of their use.

4. **Page 4.4-10, Second Paragraph, Third Sentence:** Please revise the condition language as follows to reflect that a Safety Management Plan should only be required for hazardous materials that are delivered in large quantities, not for smaller containers of materials such as totes or paints.

A Hazardous Materials Business Plan (HMBP) would also be prepared by the project owner that would incorporate state requirements for the handling of hazardous

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materials (BS 2011a, section 5.5.2.2). Staff proposes Condition of Certification **HAZ-2** which ensures that the HMBP, which includes the Inventory and Site Map, Emergency Response Plan, owner/operator Identification, and Employee Training, would be provided to the Riverside County Fire Department (RCFD) so that RCFD can better prepare emergency response personnel for handling emergencies which could occur at the facility. In accordance with Condition of Certification **HAZ-3**, the project owner would also be responsible to develop and implement a Safety Management Plan for delivery of liquid hazardous materials by tanker truck. The plan would include procedures, protective equipment requirements, training and a checklist. It would also include a section describing all measures to be implemented to prevent mixing of incompatible hazardous materials. This plan would be applicable during construction, commissioning, and operation of Rio Mesa SEGF.

5. **Pages 4.4-24 and 4.4-25, Appendix A:** Applicant revised the list of hazardous materials included in Appendix A in its Environmental Enhancement Proposal docketed with the CEC on July 23, 2012. Table 5.5-3 should be revised as follows, and new Table 5.5-4 added to reflect the information included in the EEP:

Hazardous Materials Management Appendix A Hazardous Materials Proposed for Use at the RIO MESA SEGF

**Table 5.5-3
Hazardous Materials Usage and Storage During Operation Based on Title 22 Hazard Characterization**

Material	Hazard Characteristics ¹	Purpose	Storage Location	Maximum Stored ²	Storage Type
Nalco Elimin-OX (Oxygen scavenger)	Ignitability	Oxygen scavenger for boiler chemistry control	Power Block: Containers near power tower	1,600 gal	400 gallon totes
Aqueous Ammonia (19% concentration)	Reactivity, toxicity	pH control for boiler chemistry	Power Block: Containers near power tower	1,600 gal	400 gallon totes
Sulfuric Acid 93% (66° Baumé)	Corrosivity, reactivity, toxicity	pH control	Power Block and Common Area: Containers located in Water Treatment Building	2,400 gal	400 gallon totes
Sulfuric Acid (Batteries)	Corrosivity, reactivity, toxicity	Electrical power	Power Block: Contained within the main electrical room and the power tower Common Area: Contained within main electrical room	12,000 gal	Batteries

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Table 5.5-3

Hazardous Materials Usage and Storage During Operation Based on Title 22 Hazard Characterization

Material	Hazard Characteristics ¹	Purpose	Storage Location	Maximum Stored ²	Storage Type
Sodium Hydroxide (50% concentration)	Corrosivity, reactivity, toxicity	pH control	Power Block and Common Area: Containers located in Water Treatment Building	2,400 gal	400 gallon totes
Diesel Fuel (No. 2)	Ignitability	Emergency generator	Power Block: Near fire pump, beneath emergency diesel generator, and adjacent to the mirror wash machines water filling station Common Area: beneath emergency diesel generator and near fire pump	40,000 gal	Aboveground storage tanks and in equipment
Paint, solvents, adhesives, cleaners, sealants, lubricants	Toxicity	Equipment Maintenance,	Power Block: Maintenance Shop	500 gal	1 gal and 5 gal containers
Hydraulic Oil	Mildly toxic	Miscellaneous equipment control oil	Power Block: Contained within equipment, drums during replacement Common Area; Contained within equipment, spare capacity stored in Warehouse	6,000 gal	Contained within equipment and misc. drums during replacement
Sodium Hypochlorite 12% (trade) solution	Irritant, Corrosivity, reactivity	Biocide	Power Block and Common Area: Containers located in Water Treatment Building	2,400 gal	400 gal totes

Source: BrightSource Engineers, 2011.

Notes:

1 Hazardous characteristics based on material properties and potential health hazards provided by those properties

2 All numbers are approximate. Typically assumes two totes could be required per chemical and location. Operational volumes are expected to vary but not to exceed maximum stored.

cf = cubic feet

gal = gallons (s)

WSAC = Wet-Surface Air Cooler

WWTS = Wastewater Treatment System

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Table 5.5-4
Hazardous Materials Usage and Storage During Operation Based on Material Properties

<u>Material</u>	<u>Hazard Characteristics¹</u>	<u>Purpose</u>	<u>Storage Location</u>	<u>Maximum Stored²</u>	<u>Storage Type</u>
<u>Cleaning Chemicals and Detergents</u>	<u>Toxicity, irritant</u>	<u>Periodic cleaning of steam turbine</u>	<u>Power Block: Maintenance shop</u>	<u>3,000 gal</u>	<u>Misc. Manufacturer's containers</u>
<u>Nalco 5200M (Anti-scalant)</u>	<u>Irritant, mildly toxic</u>	<u>Wastewater treatment anti-scalant</u>	<u>Power Block: Containers near WWTS</u> <u>Common Area: Containers in Water Treatment Building</u>	<u>1,500 gal</u>	<u>300 gal totes</u>
<u>Nalco 3DT-187 (Corrosion Inhibitor)</u>	<u>Irritant, mildly toxic</u>	<u>Wet-Surface Air Cooler (WSAC) Corrosion inhibitor</u>	<u>Power Block: Containers near WSAC</u> <u>Common Area: Containers in Water Treatment Building (storage)</u>	<u>2,100 gal</u>	<u>300 gallon totes</u>
<u>Nalco 73801WR (Dispersant)</u>	<u>Irritant, mildly toxic</u>	<u>WSAC Dispersant</u>	<u>Power Block: Containers near WSAC</u> <u>Common Area: Containers in Water Treatment Building (storage)</u>	<u>2,100 gal</u>	<u>300 gallon tote</u>
<u>Nalco TRAC107 (Corrosion Inhibitor)</u>	<u>Irritant, mildly toxic</u>	<u>Closed cooling water Corrosion Inhibitor</u>	<u>Power Block: Contained within CCW system</u> <u>Common Area: Containers in water treatment building (storage)</u>	<u>500 gal</u>	<u>55 drums</u>
<u>Avista Vitec (Scale Inhibitor)</u>	<u>Irritant, mildly toxic</u>	<u>Reverse osmosis scale inhibitor</u>	<u>Common Area containers in Water Treatment Building</u>	<u>900 gal</u>	<u>300 gallon totes</u>
<u>Sodium Bisulfite</u>	<u>Irritant, mildly toxic</u>	<u>Dechlorination</u>	<u>Common Area containers in Water Treatment Building</u>	<u>900 gal</u>	<u>300 gallon totes</u>

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Table 5.5-4
Hazardous Materials Usage and Storage During Operation Based on Material Properties

<u>Material</u>	<u>Hazard Characteristics¹</u>	<u>Purpose</u>	<u>Storage Location</u>	<u>Maximum Stored²</u>	<u>Storage Type</u>
<u>Nalco 7468 (Anti-foaming agent)</u>	<u>Irritant, mildly toxic</u>	<u>Wastewater treatment system anti-foaming agent</u>	<u>Power Block: Containers near WWTS</u> <u>Common Area: Containers in Water Treatment Building</u>	<u>1,500 gal</u>	<u>300 gallon totes</u>
<u>Lubricating Oil</u>	<u>Mildly toxic</u>	<u>Miscellaneous equipment lubrication</u>	<u>Power Block: Contained within equipment, drums during replacement</u> <u>Common Area: Contained within equipment, spare capacity stored in Maintenance shop</u>	<u>30,000 gal</u>	<u>Contained within equipment and misc. drums during replacement</u>
<u>Mineral Transformer Insulating Oil</u>	<u>Mildly toxic</u>	<u>Provides overheating and insulation protection for transformers</u>	<u>Power Block: Contained within transformers</u> <u>Common Area: Contained within transformers</u>	<u>112,000 gal</u>	<u>Transformers</u>
<u>Hydraulic Oil</u>	<u>Mildly toxic</u>	<u>Miscellaneous equipment control oil</u>	<u>Power Block: Contained within equipment, drums during replacement</u> <u>Common Area: Contained within equipment, spare capacity stored in Warehouse</u>	<u>6,000 gal</u>	<u>Contained within equipment and misc. drums during replacement</u>
<u>Sodium Hypochlorite 12% (trade) solution</u>	<u>Irritant, Corrosivity, reactivity</u>	<u>Biocide</u>	<u>Power Block: Containers in water treatment building</u> <u>Common Area: Potable water treatment area</u>	<u>2,400 gal</u>	<u>300 gal totes</u>

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Hazardous Materials Usage and Storage During Operation Based on Material Properties

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Source: BrightSource Engineers, 2011.

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1 Hazardous characteristics based on material properties and potential health hazards provided by those properties

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WWTS = Wastewater Treatment System